Course Syllabus

Course Information

Course Number/Section	NSC 3361.004
Course Title	Introduction to Neuroscience
Term	Fall 2020
Days/Times/Room	MW 01:00pm-02:15pm/Blackboard collaborate

Professor Contact Information

Professor	Dr. Siham Raboune
Email Address	siham.raboune@Utdallas.edu
Office Location	JO3.110
Office Hours	Online M 11:00am-12:00pm or by appointment (Webex link available on e-learning)
Other Information	Course Web Site: UTD eLearning
Teaching Assistant	Hong, Veronica Minsu
Email	Veronica.Hong@UTDallas.edu
Office hours	By appointment

Course modality and expectations

Instructional Mode	Remote/Virtual
Course Platform	The course will meet on Monday and Wednesday from 1:00pm-2:12pm via Blackboard collaborate (Link available on the course e-learning home page)
Expectations	Regular class participation is expected regardless of course modality. Students who fail to participate in class regularly are inviting scholastic difficulty. All course material including PowerPoints, recordings and assignments will be posted on eLearning. Recordings may not be published, duplicated, or shared with those not in the class, or uploaded to other online environments. Failure to comply with these University requirements is a violation of the Student Code of Conduct. Students are expected to check course announcements on regular basis. I will use e-Learning to post announcements as well as any urgent changes to our class schedule should the need arise. To comply with FERPA regulations, all and any email correspondence related to the course MUST be sent through official UTD email/eLearning.
Asynchronous Learning Guidelines	Students who select asychronous instruction will have access to all materail including PowerPoints, lectures recordings and assignments via e-learning. Students who select asychronous instruction are expected to compy by all assignments and tests due dates. For more information about asynchronous learning check the followingweb link at: https://www.utdallas.edu/fall-2020/asynchronous-access-for-fall-2020/

COVID-19 Guidelines and Resources

The information contained in the following link lists the University's COVID-19 resources for students and instructors of record.
Please see http://go.utdallas.edu/syllabus-policies.

Course Pre-requisites, Co-requisites, and/or Other Restrictions
None
Course Description
This is an introductory course that explores the basic structure and function of the brain and spinal cord as well as nerves and their connections. This course includes an in-depth look at the principles of neurophysiology and the underlying processes responsible for sensation, learning and memory, as well as behavior.

Course Content
To begin to understand human behavior and disease you must first understand how the brain works. Since this is an introductory neuroscience course, we will first examine nerves cells and their physiological processes including the propagation of nerve impulses and the transfer of information from one neuron to another. This will include a survey of basic neuroanatomy and the development of the nervous system. This will be followed by a study of the overall organization of the central nervous system including parts of the brain stem, spinal cord, and cranial nerves. We will then look at the sensory, motor, and integrative systems, followed by a look at several behavioral and mental disorders. Basic neuropharmacology will be discussed as it relates to the above mentioned topics.

In order to understand and communicate about the nervous system, there will be a lot of new vocabulary that you will need to learn!

Student Learning Objectives/Outcomes
Students who complete this course should be able to:
1. Analyze the contributions of anatomical, physiological, behavioral, cell and molecular, developmental, pharmacological, and biological studies to the cross-disciplinary field of neuroscience.
2. Compare and contrast how neurons and glia cells will react in different disease states.
3. Explain how action potentials propagate along neurons, how information is transferred from neuron to neuron, and how glial cells influence these processes.
4. Predict how damage to neuro-anatomical structures will impact specific behaviors.
5. Evaluate the changes that the nervous system undergoes during typical development and how this is influence by genes vs. the environment.
6. Describe the anatomical structures and mechanisms associated with motivation, emotion, sensation, movement, and complex behaviors at the cellular and systems levels.
7. Demonstrate how scientists create and test hypotheses to study complex behaviors, neurological diseases, and psychiatric disorders.
8. Display a basic understanding of neurochemistry and neuropharmacology as it relates to neuronal function and mental disorders
9. Integrate pathological findings from psychology, psychiatry, physiology, and neurology with basic scientific

work in the neurosciences.
10. Apply neuroscience concepts, theories, and research findings to issues in everyday life.

Required Textbooks and Materials
The Mind's Machine 3e by Watson and Breedlove. ISBN- 9781605357300. This book is available in soft cover or as an eBook.
Optional Course Materials (Not required!)
If you desire additional sources of information -*because you just can't get enough to read*- you can look at (1) *Essential Neuroscience* by Siegel, (2) *Neuroscience* by Purves, (3) Foundations of Behavioral Neuroscience by Carlson, and/or (4) *Principles of Neural Science* by Kandel.

Course & Instructor Policies
Attendance and Readings
Learning about neuroscience can be a challenge even for the most studious student. Regular attendance and reading are vital to your understanding of the subject. Attendance of classes is strongly recommended, as tests will be based on material taken from the classes and will not be restricted to the topics and textbooks indicated in this syllabus, which serves predominantly as a guideline to the course. The instructor will post lecture slides prior to class. Students are expected to read lecture material before coming to class. Students are also expected to participate in class discussions and activities. I will often emphasize particular parts of a chapter that I think are critical for your future studies. If you are not in class or if you do not listen to the recordings of the lectures, you will not know what parts I have emphasized! In addition, I may from time to time present material in lecture that is not covered in the textbook. This will often include material designed to enhance your knowledge and peak your interest. This should encourage you to attend class and to keep up on your reading assignments.

Special needs
Any student with special needs/circumstances that require special accommodations for this course should make this known to the instructor during the first week of class via email.

Academic Support/Tutoring
The Student Success Center offers Supplemental Instruction (SI) for this course free of charge. Study sessions are lead by an SI leader, someone who has taken the class and done well, and are held weekly. Sessions start during the second week of classes and are voluntary; there is no need to sign up. For details such as days and times and other additional information check http://www.utdallas.edu/studentsuccess/leaders/si.html

Your class TAs are a good source of information and can be very helpful if you are having trouble in the class with regard to understanding the material. Teaching Assistants (TA) are graduate students with a good degree of knowledge about the material you are being given; many of them have taken this class. Please feel free to email your TA at any time during the semester.

Grading Policy
Your grade will be determined as follow:

In Class Exams:	80%
Take Home Assignments:	10%
Quiz:	10%

Total earned **100%**

Letter grades will be assigned according to the following cutoffs:

The plus/minus grading system is used in this course. A+ (97–100), A (94<97), A- (90<94), B+ (87<90), B (84<87), B- (80<84), C+ (77<80), C (74<77), C- (70<74), D+ (67<70), D (64<67), D- (60<64), F (< 60).

Exams (80%): There will be a total of four exams: Three during the semester and one last comprehensive exam during the final exam period. Exams will consist of multiple-choice, matching, true/false and essay questions and will be graded equally. You may drop your lowest grade even the final if desired. All exams are remote. Detailed instructions for these exams are to be announced via announcements on e-learning

- **Make-up exams** are rarely offered and only at my discretion. Excused absences for exams will be given only if: (a) you are seriously ill and have verifiable documentation from a physician, or (b) you made prior arrangements to attend a verifiable religious or family event. In all these cases you must notify and discuss with the instructor in advance of the scheduled exam by email.
- **Reviewing Past Exams:** Students have a week from the day exam grades are posted in which to make an appointment to review that particular exam.

Take Home Assignments (10%): There will be a total of 2 essays during the semester. Each essay is worth (5%). Collaboration is allowed, however every student needs to write their own essay independently and include names of all group members. Detailed instructions for these assignments are to be announced in class and via e-learning. ***There is No make up for these essays***

Quiz (10%): There will be a 1 remote mid-term Quiz on the anatomy and terminology of the nervous system discussed in class. The date of the quiz will be announced in the class and Via e-learning announcement. ***There is No make up for the Quiz***

Please note the following:

- **All assignments must be typed and submitted via turnitin; those that are not will not be accepted or graded. Turnitin link for submission will be been made available on the course webpage / eLearning.**
- **Students should save a copy of the digital receipt that is displayed and received via email when submitting a draft/paper on Turnitin as proof of submission. If you are facing any technical issues, please take a screenshot and send it to me along your paper via email by the due date.**
- **Papers not turned in by the due date will be deducted one letter grade for every day late (including weekends)**

Scholarly Student Conduct

In order to create an environment that is conducive to learning, students assume the duty to conduct themselves in a manner appropriate to the university policy. Please plan to pay your full attention to class and be an active learner.

Academic Dishonesty
Violations of academic honesty (cheating, plagiarism, etc.) will not be accepted Please refer to your student handbook for a description of academic dishonesty policy.

Technical Requirements
In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the Getting Started with eLearning webpage.

Course Access and Navigation

- This course can be accessed using your UT Dallas NetID account on the eLearning website. Please see the course access and navigation section of the Getting Started with eLearning webpage for more information.
- To become familiar with the eLearning tool, please see the Student eLearning Tutorials webpage.
- UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The eLearning Support Center includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.
- The University is committed to providing a reliable learning management system to all users. However, in the event of any unexpected server outage or any unusual technical difficulty which prevents students from completing a time sensitive assessment activity, the instructor will provide an appropriate accommodation based on the situation. **Students should immediately report any problems to the instructor and contact the online** eLearning Help Desk.

Communication

- This course utilizes online tools for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please visit the Student eLearning Tutorials webpage for video demonstrations on eLearning tools.
- Student emails and discussion board messages will be answered within 3 working days under normal circumstances.

Distance Learning Student Resources

- Online students have access to resources including the McDermott Library, Academic Advising, The Office of Student Accessibility, and many others. Please see the eLearning Current Students webpage for more information.

The instructor reserves the right to amend this syllabus at any time. It is the responsibility of the student to be made aware of any changes in the syllabus by attending class and checking e-learning regularly.

Tentative Course Schedule

Week	Day	Topic	Reading
Aug 17	M	Course Orientation	
	W	Introduction to neuroscience	Chapter 1
Aug 24	M	Anatomy of the nervous system and neurodevelopment	Chapter 2
	W	Anatomy of the nervous system and neurodevelopment	Chapter 2
Aug 31	M	The Neurophysiology (Generation and Transmission of nerve impulses) -I	Chapter 3
	W	The Neurophysiology (Generation and Transmission of nerve impulses) -II	Chapter 3
Sep 7	M	**No Class/Labor day**	
	W	Neurotransmitters release and Synaptic Transmission-I	Chapter 4
Sep 14	M	Neurotransmitters release and Synaptic Transmission-II	Chapter 4
	W	Review session	
Sep 21	M	**Exam 1**	
	W	Neuropharmacology	Chapter 4
Sep 28	M	Somatic sensory System	Chapter 5
	W	Somatic sensory System	Chapter 5
Oct 5	M	Visual System	Chapter 7
	W	Visual System	Chapter 7
Oct 12	M	Hearing, Balance, taste and smell-I	Chapter 6
	W	Hearing, Balance, taste and smell-II	Chapter 6
Oct 19	M	Motor Control	Chapter 5
	W	Hunger, thirst and Homeostasis	Chapter 9
Oct 26	M	Review session	
	W	**Exam II**	
Nov 2	M	Learning and memory	Chapter 13
	W	Sleep and wakefulness	Chapter 10
Nov 9	M	Emotions, stress and aggression	Chapter 11
	W	Language	Chapter 15
Nov 16	M	Hormones and the Brain	Chapter 8
	W	Psychopathology	Chapter 12
Nov 23	M	Review session	
	W	**Exam III**	
	M		
Dec 2	W	**Final exam**	